Medical Myth

Myth: corneal abrasions require routine patching

Corneal ulcerations or abrasions have traditionally been treated with either or both eye patches and cycloplegics and topical antibiotics. Applying eye patches in patients with corneal abrasions caused by direct mechanical injuries, such as trauma or foreign body removal, is common because of the belief that it reduces pain and aids healing. Good evidence exists, however, that patching neither aids healing nor reduces pain.[1-5] Indeed, evidence suggests that patching may reduce healing and therefore routine application of patches should be abandoned.

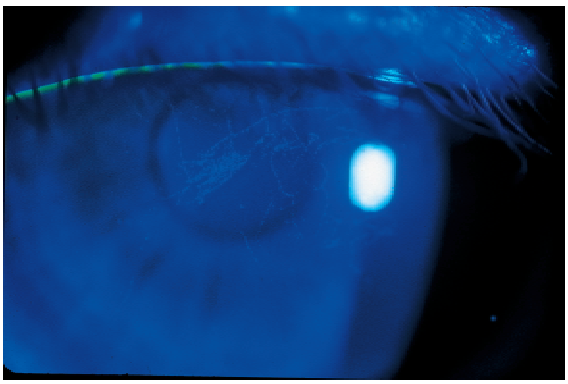
Patterson et al performed a randomized study to look at discomfort experienced by 33 patients with mechanical corneal abrasions.[1] The prescribed treatment was tobramycin ointment with or without eye patching. The patients were asked to rate their pain using a visual analog scale at baseline and after 24 hours. The changes in the mean pain score between the 2 groups over 24 hours were not statistically significant. The investigators concluded that routine eye patching does not provide any analgesic benefit when compared with leaving the eye unpatched.

In another randomized study, Arbour et al looked at both discomfort and corneal epithelial wound healing in 45 patients with mechanical corneal abrasions.[2] All patients received 2% homatropine drops and 10% sulfacetamide sodium ointment and were randomly selected to receive eye patches or no eye patches. Patients were asked to rate their pain using a visual analog scale and were examined daily using a slit lamp until re-epithelialization was complete. No significant differences were noted between the 2 groups in the measures of patient discomfort during the follow-up period or in any measure of corneal epithelial wound healing. This study also failed to show any analgesic benefit of eye patching or any differences in wound healing.

Similarly, in a randomized study by Campanile et al, healing rates were studied in 64 patients with corneal abrasions resulting from trauma or removal of a foreign body.[3] All patients received 1% cyclopentolate hydrochloride and were then treated with or without eye patching. Healing was slightly better at 24 hours in the group without patching, although no significant difference in healing rates was noted at 48 hours. The investigators concluded that eye patches do not confer any benefit in wound healing and, based on the findings at 24 hours, may actually retard wound healing.

Finally, in a randomized study by Kaiser, 223 patients with noninfected, traumatic, or foreign body removal-related corneal abrasions not associated with contact lenses were monitored daily until their signs and symptoms resolved.[4] After receiving topical antibiotics and mydriatics, patients were randomized to receive a pressure patch or no patch. Results demonstrated that patients who were not wearing a patch healed significantly faster and had less pain. Investigators thus concluded that corneal abrasions resulting from trauma or removal of a foreign body can be safely treated with antibiotic ointment and mydriatics alone, without the need for a pressure patch.

These studies[1-4] and a recent meta-analysis[5] show that the use of eye patches for mechanical corneal abrasions does not provide any significant difference in pain relief compared with not using patches. Furthermore, eye patching might retard wound healing. Because of this lack of benefit of eye patching, and because of the theoretic loss of binocular vision, the traditional and, in particular, the routine use of eye patches for mechanical corneal abrasions should be discouraged.



Roy McClenaghan/SPL

No evidence supports eye patching for corneal abrasions

Carlo Soli
Mel E Herbert

Department of Emergency Medicine
Olive View–UCLA Medical Center
14445 Olive View Drive, North Annex
Sylmar, CA 91342

Correspondence to:
Dr Herbert
mherbert@ucla.edu

Competing interests: None declared

West J Med 2001;174:207

References

1 Patterson J, Fetzer D, Krall J, Wright E, Heller M. Eye patch treatment for the pain of corneal abrasion. *South Med J* 1996;89:227.
2 Arbour JD, Brunette I, Boisjoly HM, Shi ZH, Dumas J, Guertin MC. Should we patch corneal erosions? *Arch Ophthalmol* 1997;115:313.
3 Campanile TM, St Clair DA, Benaim M. The evaluation of eye patching in the treatment of traumatic corneal epithelial defects. *J Emerg Med* 1997;15:769.
4 Kaiser PK. A comparison of pressure patching versus no patching for corneal abrasions due to trauma or foreign body removal. *Ophthalmology* 1995;102:1936-1942.
5 Flynn CA, D'Amico F, Smith G. Should we patch corneal abrasions? A meta-analysis. *J Fam Pract* 1998;47:264.